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ABSTRACT

A significant amount of research has revealed that many students memorize words for a test, then later forget the correct spellings. A study examined the effectiveness of two approaches to teaching spelling: the "traditional" method based on grade level speller and deductive thinking; and word study based on recent research on developmental spelling and a more inductive approach. Subjects, seven randomly chosen fourth graders in the word study group and seven randomly chosen fifth graders in the traditional instruction group, were compared on retention of previously learned words and the ability to spell unfamiliar words. It was predicted that the word study group would perform better because they were internalizing word knowledge rather than memorizing spellings. Results were somewhat inconclusive as the word study group performed better in retention but not on the spelling of unfamiliar words. There were many factors which may have influenced the results, thus more research is needed. Findings illustrate the usefulness of being aware of various instructional methods and combining them to best suit the needs of both students and teachers. (Twenty-two figures of data are included; 10 figures of data and 17 references are attached.) (S)

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Word Study 1

Word study vs. Traditional Spelling: Are Students Instructed Through Word Study More Likely to Have Higher Retention Rates When Retested Two and Four Weeks Later, and Will They be More Successful at Spelling Unfamiliar Words?

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Running Head: Word Study vs. Traditional Spelling

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Abstract

A significant amount of research has revealed that many students memorize words for a test and then later forget the correct spellings. This problem is stimulating teachers to experiment with various methods of spelling instruction. The purpose of this study was to examine the effectiveness of two approaches to teaching spelling. One approach is the "traditional" method, which is based on a grade level speller and deductive thinking. The other technique, word study, stems from recent research on developmental spelling and uses a more inductive approach. The study compared these two groups on retention of previously learned words and the ability to spell unfamiliar words. It was predicted that the word study group would perform better because they are internalizing word knowledge rather than memorizing spellings. The results were somewhat inconclusive as the word study group performed better in retention, but not on the spelling of unfamiliar words. There were many factors which may have influenced the results, thus much more research is needed in the future. This study primarily illustrated the usefulness of being aware of various instructional methods and combining them to best suit the needs of both students and teachers.

Word study vs. Traditional Spelling: Are Students Instructed Through Word Study More Likely to Have Higher Retention Rates When Retested Two and Four Weeks Later, and Will They be More Successful at Spelling Unfamiliar Words?

I. INTRODUCTION

A. THE PROBLEM

How Should We Teach Spelling?

How students learn to spell and how to teach them to do so most effectively has long been a concern in the educational field. Numerous theories have been presented and many methods of instruction have been used, but it seems that we have yet to find the best way to teach spelling. In most instances students learn words for a test and spell them correctly, but when one looks at their writing or later tests the students do not seem to remember the correct spellings. It seems that too much emphasis has been put on the idea of memorizing spelling words or spelling rules, rather than allowing students to examine and "play" with words to learn about how they are spelled. Spelling textbooks are designed to teach students to spell in a deductive manner as words are

given to students in a list, similarities in the words are pointed out, rules of how to spell them are given, practice activities are provided, and then the students are tested. This type of design in spelling instruction signals to students that the purpose of using the book is to learn to spell the words given, and in order to do that memorization is usually required. I realize that some students may pick up on patterns and begin forming generalizations about words on their own, but in general a textbook based spelling program does not promote that type of learning. What seems to happen in these instances is that students try to memorize the words for the test, but the retention of the words often lasts only as long as the test does.

Research has now found that learning to spell through memorization may not be the best approach. If this is the case then why are teachers left with textbooks or curriculum guidelines which encourage them to promote such an approach? Instead of isolated memorization of words and spelling rules students need to internalize knowledge about words and how they are spelled. If students internalize ideas about how word patterns work or how letters blend then retention rates

should be much higher for those students. They will not be relying on their memory alone, but can actively think about why the word is spelled as it is and later apply this knowledge to spelling unfamiliar words. This internalization of knowledge about words could be promoted through a method of instruction known as word study.

When I mention word study I am talking about an inductive word study program (which will later be described in detail) as other types of word study programs will be beyond the scope of this paper. In word study students examine similar words, word families, etymology of words, patterns within words, what letters make certain sounds, and so forth. and form their own generalizations about why words are spelled as they are or what makes certain sounds in words. Based on my observations, the students generally do not see this as a distinct time where they are learning to spell words, but as a time during which they examine words and "play" with them. They are not told to learn words for a test, but to see what they can learn about the words they are studying. As previously mentioned there are many ways to use word study, and some textbooks may even use some

components of it as well. The distinction I want to make is between the deductive approach of giving students words and rules vs. the inductive approach of having them explore them on their own. The word study method I am promoting should allow spelling to become a more meaningful and understandable activity as its inductive manner would eliminate the need for some of the rote memorization techniques that have seemingly been ineffective.

Research needs to be done, however, to see if an inductive spelling approach through word study is the answer to improving retention rates and enabling students to become better spellers. Critical questions still remain in this area, such as does word study truly promote internalization, or is it just a better way for them to memorize words? Does it help the poor spellers? What about the extremely good spellers, will they do better regardless of the method of instruction? Are students in both groups learning to spell the same level of words? Could the differences lie in the types of words they are studying? Maybe traditional spelling and word study methods do not have to be separate entities, but can be combined. I hope that by looking at retention

rates, the idea of internalization, and strategies used for spelling new words that I can shed some light on this matter. As teachers we do not always have the time or means to keep up with the latest findings in every field, and we are also often subjected to using the materials that a city/county/state provides for us. Every teacher tries to do the best with what they have and what they know, therefore, if this study finds a difference I hope teachers will critically examine this area of research and the methods they are using. If word study seems to be more effective on the measures I chose to examine, then I hope teachers who are unfamiliar with it or who do not use it will consider trying it in their classrooms. I certainly do not expect teachers to ban spelling books if results favor word study, but I do hope that they will see the possibility of combining these two positions by incorporating components of word study into lessons from a grade level speller.

B. PURPOSE

The purpose of this study is to compare the retention rates and ability to spell unfamiliar words in fifth grade students instructed through a traditional,

deductive spelling program with a grade level speller to fourth graders instructed through an inductive, word study program. The study will look at words spelled correctly on a spelling test and how many of those words they again spell correctly on another test two weeks and four weeks later. It will also look at the ability of each group to spell unfamiliar words (words not studied for the test). The primary focus will be to show whether or not students instructed through word study are internalizing word knowledge rather than memorizing rules and words as it is believed the other group will be doing.

C. HYPOTHESIS

I predict that those children who are instructed through a traditional, deductive approach to spelling and having the format of "introduce words-practice-test" will have lower retention rates for words spelled correctly on a weekly test when retested two and four weeks later. I predict that these students will be relying solely on memorization, thus making them more likely to forget the correct spellings. The word study group will have internalized the knowledge about the

words, thus, having higher retention rates.

I also predict that the group instructed through traditional means will be less likely to spell unfamiliar words. I think the word study group will be more successful at this task because they are learning to internalize word knowledge that can be generalized to other situations.

D. OVERVIEW

This study will begin by outlining the history of spelling research. It will examine two popular views: one focusing on rote memorization and the other on generalization of spelling patterns. Finally the latest research on spelling instruction, the developmental position, will be examined. Part II will outline the basis that I am using to support my hypotheses.

Part III will introduce the two classes and describe each spelling program in great detail. It is very important to note the way each teacher uses their method of instruction since that is how the terms word study and traditional spelling will be defined in this paper. Keep in mind that other ways of using these programs exist. A clear description of the subjects, the measures used

for testing, the design of the study, the analysis, and the conclusions will be given.

I realize that there are an abundance of other issues that are brought to mind by this study. For instance, the idea that the words in a textbook may contain words that the students can't read or pronounce, the issue of a more individual approach to spelling, the idea of self confidence in spelling, as well as many other important ideas. Unfortunately, this study can not look at all of these tangents as a particular focus had to be made.

II. LITERATURE REVIEW:

Theoretical Background

Since the thirteenth century there have been concerns about how children learn to spell and how to teach them to do so most effectively. "Because of this concern spelling has been one of the most frequently investigated areas of the curriculum (Storie & Willems, p.125). However, knowledge learned through these investigations and research seem to be slow in reaching the classrooms and teachers. Due to curriculum standards

or time management problems for the teacher, many school systems rely on the grade level speller which normally uses techniques and methods that stem from past research.

One of the more prominent early views of spelling was based on research by people such as Noah Webster and Ernest Horn. These two prominent men believed that rote memorization was a major factor in learning to spell. Proponents of this view believed that each word was an individual challenge and learned by vocal repetition of the letters in the word. Later researchers in this area found that visual memorization was a factor as well. They saw words as being learned by repetition, but also by perceiving it visually as a whole unit. This position focused on the idea that words are learned one at a time and that learning to spell one word does not necessarily mean one will be able to spell a similar word. According to researchers at this time, the ability to spell was based solely on what your memory capacity was.

A second view of spelling was later developed and investigated: the generalization position. This position differed from the rote memorization position as researchers in this area no longer saw spelling being learned by letter-letter or word-word sequences.

Proponents of this view, unlike the prior one, believed that generalizations in spelling were important. They felt that patterns of letters within words were key elements in learning to spell similar words. For example, a child who could spell "boy" should also be able to spell "toy and joy." These patterns within words were pertinent elements to the generalization position even though rote memorization was still considered necessary to learn to spell. Many grade level spellers being used today are based on one of these two theories or a combination of the two. The activities associated with each unit are essentially designed to help children in some way to memorize the spelling of words or rules of how to spell. Textbooks may often group words according to patterns, but students are generally told to accept the groupings or to memorize/remember some rule about how they are spelled. For instance note in Figure 1 a page from a spelling textbook published by McDougall & Littell in 1990, that instructs students on how to learn to spell a word (See Appendix). These theories rest on a deductive approach to teaching spelling which in turn calls for some form of memorization.

The third and most recent view of how children learn

to spell is based on research by Henderson and embodies components of the two views, but goes a step further by looking at the knowledge children already possess as they begin learning to spell. Henderson's view looks at errors children make as they try to spell increasingly complex words. He believes that there is consistency and regularity in the way children learn to spell and that it occurs on a developmental hierarchy. Henderson's stages are outlined in Figure 2 (See Appendix).

The Developmental Model

As far as spelling instruction is concerned, Henderson feels that "memory alone will not suffice to make a speller"(Nelson, 1989, p. 262). A child must study the alphabetic sequences in combination with word patterns in order to build an "internal repertoire" of vocabulary and correct spellings (Henderson, 1990, p.91). Grouping words according to vowel sounds, common inflections, homophones, patterns within words, or word endings and examining them inductively (rather than deductively as in textbooks) through word study will enable them to internalize ideas of how words should be spelled rather than relying solely on their memory. In most word study programs the students are not given rules

or groups of words to learn, but spend time analyzing the words and forming groups of their own. Word study activities- including word sorts, games based on ideas other than "how do you spell '_____'?", and using dictionaries to look at sound spellings- should promote the internalization of patterns of words that Henderson believes is crucial. This method of spelling will also enable students to inductively think about patterns as they are developmentally able. Henderson's theory of spelling is in essence a combination of the rote memorization position and generalization position with some added ideas about the developmental processes that children go through. Simply put by one researcher, "word study, using categorization sorts, and word play activities, helps students investigate word patterns and become knowledgeable spellers who do not need to rely solely on memory" (Bloodgood, 1991, p.203).

Which Method Is Best?

How does one decide the best method for spelling instruction? A primary concern has been that after a student spells a word correctly on a test he will misspell the same word in a later writing assignment or test. This "forgetfulness" seems to imply that our

current method of spelling instruction needs some improvement. Advocates of word study say that children are not memorizing words only for a test, but are internalizing knowledge of how words are spelled. "Spelling becomes a meaningful activity rather than a briefly memorized and soon forgotten list" (Bloodgood, 1991, p. 208). If they are internalizing this knowledge of words then they should not have as many misspellings of words once spelled correctly on a test in their later work. Research has been done, but needs to be continued in order to effectively compare the outcomes of students instructed through traditional, deductive methods using a grade level speller, to those instructed through some type of inductive, word study program.

One study by Kelly Peay (1990) looked at the differences in the students' attitudes about spelling and in their success rates based on test scores. This study found that those students instructed through a word study program had more positive attitudes about spelling and higher test scores. However, the big question still remains as to whether or not those students who had higher test scores could spell those words correctly when retested weeks later. Were they truly internalizing

ideas about how words are spelled or were they just better at memorizing them for the test than the group instructed through traditional means? If the students were truly internalizing ideas about how words are spelled, then when retested weeks later they should have higher retention rates than the other group. The word study group should also seemingly have more success at spelling unfamiliar words.

This study will examine these two questions as a means of investigating the issue of whether or not word study is a more effective approach to teaching spelling than one which uses deductive thinking, based on a grade level speller. Will those instructed through word study have higher retention rates when retested two and four weeks later? Will the word study group be more successful at spelling unfamiliar words? This study will attempt to answer some of these questions.

III. DESIGN OF THE STUDY

A. SAMPLE

Group A

There are two main groups in this project. Group A

is the word study group and consists of seven randomly chosen fourth graders: four girls and three boys. Six of the students are caucasian and one is Indian (note that English is her second language). These students attend a suburban elementary school in Virginia and are average to above average spellers for their grade. Their spelling ability is obvious from the types of words they use and spell correctly in their weekly journals. Despite the difference in their ages as compared to the second, fifth grade group, their ability levels are relatively equal. Most of the students come from middle to upper class backgrounds and seem eager to learn in school. I often witnessed the students choosing educational activities such as word study games or writing stories on the computer when given free time. Their spelling levels, found using an informal spelling inventory, appear in Figure 3 (See Appendix).

Word Study

This group of students has used an inductive, word study approach to spelling since the beginning of the school year. They conduct word study during a Language Arts time block, but do not section out a certain time and call it "Spelling." Based on my observations of

there comments about "Spelling" and their behaviors during this time, these students do not seem to look at this period as a time when they are just learning to spell words, but as a time to explore and "play" with different word sounds. I wondered if they even knew it was really their spelling period.

Word Find

Since the beginning of the year the teacher has instructed them through word study in the same way. The students seem to have become used to it and have developed a routine. A "unit" in word study is usually completed every other week. They have examined each of the long and short vowel sounds, and my study picks up as they are doing the *long u* sound. The word study unit begins as the teacher introduces the sound or pattern they will be studying, for example the *long u* sound. (I will continue to use this sound as an example throughout the description, but one should realize that the process would be the same with any sound or pattern). The teacher begins by making sure that everyone knows the symbol for *long u* and the sound that it makes. She then gives them a current Weekly Reader and a highlighter, and tells them that they will have three minutes to find as

many *long u* words as they can in the Weekly Reader. The rules in this phase are that they must be one syllable words, have a *long u* sound, and are not proper nouns. These rules are made to give some consistency to the words found. The next step is to use the highlighted words (or if not enough they may find words in their silent reading book) to make an individual list of about 30 words in their word study notebook. Again a rule is imposed as the student must know a words pronunciation and meaning before adding it to their individual list.

Sound Spellings

The next process involves having students use a dictionary to look up and write the sound spelling for each word. This activity allows them to confirm if the word has a *long u* sound, and if so what makes the sound in each word. At this point the teacher has each student put approximately two words with their sound spellings on the board, and once the list is complete they review it as a whole class. The teacher generally waiks around the room during this activity to examine each individuals' work so that problem areas for children can be tackled. Students may add words from the board to their list, b'ut only if they agree with it and know the word's meaning.

This is an interesting stage as often when a vowel sound is controlled by a consonant such as *r* some children cannot hear the vowel sound. An example would be the word *car*. When such a situation arises the teacher will ask the class to vote on either eliminating those words entirely or using them on the list, but still a student should not write the words on their own list if they can't hear the sound. During this stage of word study students may challenge words that their classmates put up on the board. If a word is determined by the class to be incorrect it is eliminated from the list. This stage of word study promotes a lot of class discussion, as well as students helping one another.

Word Sorts

Word sorting is considered the next stage in this word study program. Students take their individual lists and sort the words into categories in some meaningful manner. They are to label each category and have at least three words in it. If they need to add words to complete a category they may do so. However, if they cannot think of three words to use it should clue them in that another category may be needed, or the words may fit into an already existing one. The way in which they sort

the words is left up to each individual student, but from my observations they normally develop similar categories. An example of such as sort would be:

hue	duke
mute	due
dew	pew
you	blue
stew	flute

<u>OTHER</u>	<u>-UE-</u>	<u>C-V-C-E</u>	<u>-EW-</u>
you	hue	duke	stew
	due	mute	dew
	blue	flute	pew

This sorting activity allows students to start thinking about the way words are spelled and why they are spelled as they are. It also allows them to reason through exceptions to the rules as those words usually get grouped in an "other" category. Once the students have completed their individual list, they form a class sort following the same rules as when they made the list. After they complete the class list, the teacher asks the students to form some generalizations about these words.

This is the most important stage in this word study program as it should begin to show what they have determined and are hopefully internalizing about long u words. The teacher takes a sufficient amount of time with this activity to ensure that all students understand the generalizations.

"Word Study Fun"

The final activity before the evaluation is what the teacher calls "Word Study Fun." Based on what I have observed the students love this activity and often chose to do it during free time as well. Each student has the assignment of making some sort of activity using the words on their list. It must not be something simply asking how to spell the words, but something which will allow others to use the words in a meaningful way. Favorite creations have been *long a* charades, monopoly (each set of property was a word family), memory, wheel of fortune, crossword puzzles, word searches, go fish, and many other clever creations. The teacher gives the student one day to play each person in their group's game. These games allow more practice with the words plus a chance for the students to be creative and use something they have designed. The next day, after "Word

"Study Fun" is over, the teacher gives them an evaluation. The students are accustomed to this routine, but the teacher never specifically asks them to study. She assumes that throughout the activities the students have learned to spell the words. The teacher chooses twenty words from the class list and uses ten words from previous tests on the evaluation. The test is given orally as the teacher calls out a word, uses it in a sentence, and finally repeats the word.

Group B

Group B consists of seven randomly selected students who are in a fifth grade class which uses a grade level speller as the basis for spelling instruction. As with Group A, this type of instruction has been used since the beginning of the school year. They attend a rural school in Virginia, and the sample consists of four boys and three girls. There are three African Americans and four Caucasian children. These students come from a lower to middle class background and are not as intrinsically motivated to do well in school as the students in Group A. Upon observation, though, this particular sample is somewhat motivated and has some parental involvement in

their school work. Most of the students in this group actively participate in class, do their homework, and their parents attend school events. The students are about average spellers for their grade as their spelling levels can be seen in Figure 4 (See Appendix).

Traditional Spelling

I am defining this class as a traditional class because the teacher uses a grade level spelling book, has a distinct twenty minute class period for spelling, and generally follows the routine of "introduce words-practice with them-test." It is not to say that these students do not use some components of word study as the book often groups words according to patterns, word endings, root words, or encourages students to examine words according to their similarities. The primary distinction that is made between these two groups is that the spelling book used in Group B follows a deductive approach to spelling, rather than an inductive approach which asks students to actively study patterns in words. It is possible that some students may begin to make generalizations on their own regardless of how the book is structured, but in general they are learning deductively. The book gives them groups of words,

points out why they are grouped together, and offers rules to help them learn to spell the words. This type of approach seems to signal to the students that they must memorize words for a test. Based on my observation of the students they seem to see spelling time as a time to learn how to spell words, in other words signalling memorize them for a test.

Introduction of Words

The process that this class goes through is primarily determined by the sequencing of words and activities in the spelling book. The book gives the words in a list, and most educators assume they are grade level five words. The words are usually grouped according to patterns, common prefixes or suffixes, root words, or other commonalities. The teacher generally introduces a "unit" by reading the words to the students and discussing their meanings and similarities. The students then chorally repeat the words. At this time, the teacher points out and explains any rules of spelling that might be needed in learning to spell the words. The unit is structured so that the students will be able to learn the rules or patterns to help them on the weekly test.

Word Activities

Throughout the week the teacher gives the students activities such as crossword puzzles, word finds, or writing stories or sentences to practice using the words. Finally at the end of the week she gives them a test. The students are familiar with the routine in this class, but are generally reminded to study for their test on Friday. The testing method for this class consists of ten words from their current list and ten from previous lists. The testing method is different in that this group uses a multiple choice format. For the purpose of this study, however, I gave them an oral test identical to the procedure used in the word study class. The difference in the testing methods may have some bearing on the outcome of this experiment, thus being an issue to examine in future studies.

As previously mentioned, the definitions of word study and traditional instruction form the basis for these two classrooms. The definitions are very important as there are many different ways to teach spelling according to each of these approaches. As Peay's study (1990) suggested, the word study approach seems to signal to the students that they are learning about words, while

the other approach tells them to memorize words for a test.

B. MEASURES

There were several measures used in this study and each will be discussed in turn. The teachers gave each student an informal spelling inventory. Each one was similar in form as it consisted of words from various levels, all compiled from basal readers on that particular level. The teachers orally tested the students and stopped at the highest level where they spelled 50% or more of the words correctly, this point being determined as their spelling level. An example of such an inventory appears in Figure 5 (See Appendix).

Another measure I used was a spelling test. All tests for each group were identical in that I called out the words, gave them a sentence, and repeated them as they wrote them down. I then marked the words that were correct and compared them to the way they spelled those words on the other two re-tests. I used a similar measure when I tested them on unfamiliar words. I tested each group on ten words, similar to what they had been tested on, but not words from their list. **Group A** was

also tested on ten words from a fourth grade spelling book.

I also employed several qualitative measures in this study as well as observing the students' actions and remarks before, during, and after the tests, and during some of their class periods. I also asked the students a series of questions about spelling as shown in Figure 6 (See Appendix). I included these questions and observations in order to get a sense of how they viewed their spelling instruction and if they seemed to see it's purpose as being to memorize words.

C. DESIGN

This study will take place over a period of about one month. Normal classroom instruction will occur in each group by the teacher, and my study will look at results from a randomly chosen sample of seven students from each group. **Group A** will be studying long u words and **Group B** will be using the next list of words in their textbook as shown in Figures 7 and 8 (See Appendix). Each unit will last approximately 1-2 weeks, and at the end of the unit a test or evaluation will be given by the teacher. **Group B** differed somewhat as I gave them an

oral test consisting of twenty words from their list. I gave them this test so that both groups would be using the same type of testing procedure for the study. As previously mentioned, Group B normally uses a multiple choice test. Each group will then be retested on the same words at two and four week intervals.

The words spelled correctly on the first test will be noted, and the later tests will be examined to see which of those words the students continued to spell correctly two and four weeks later. This comparison will serve to test the hypothesis that the word study group will have higher retention rates on the spellings of their words as compared with the traditional group.

After testing their retention rates, they will be tested on their ability to spell unfamiliar words. Each group will be given ten words that are similar to the words they had been working with on their test, but not on the list. This technique will attempt to test the hypothesis that the word study group will be more successful than the traditional group at spelling unfamiliar words because the latter group should be internalizing knowledge about words which can be applied in other situations. I will note how many of the

10 unfamiliar words each group spells correctly.

Finally, I will give Group A an oral spelling test on 10 words from a level four spelling book. In retrospect, it seemed that the word study group may have been studying words that were too easy for them as they were looking at only one syllable words. If this group does poorly then it would seem that they may not be internalizing knowledge which can be generalized to other situations or that they may not have been given enough instruction in spelling multisyllabic words. However, if this group spells the majority of the level four words correctly then it may be that they are internalizing patterns which can be applied to many words. This testing procedure is not, however, one of my primary hypotheses but is a point of interest which I felt needed to be explored..

Throughout this study I made some informal observations as well. These observations will hopefully support the statements made concerning how students see word study as compared to "spelling". I stated previously that Group A saw word study as a time to freely explore and "play" with words instead of a time to learn how to spell and that Group B saw spelling as a

deductive learning process where they were given words and rules to learn to spell for a test. I will be observing their spontaneous behavior and comments as well as having them answer a series of questions (See Figure 6). I hope that these questions will give me some idea of how they feel about spelling instruction and about their ability to spell. These observations are not a primary feature in the design of the study, but they will serve to strengthen the statements made concerning how students instructed through each program view spelling. It will also begin to form a basis for comparing the way each method may affect the students emotionally.

IV. RESULTS AND ANALYSIS:

One should note that data from Student B in Group A was excluded in all but one study because of his absence from school. Also, Student F in Group A was excluded from one test due to being absent from school.

Hypothesis 1:

I predicted that the traditional spelling group, Group B, would have lower retention rates than the Word Study group, Group A. The prediction that Group A would

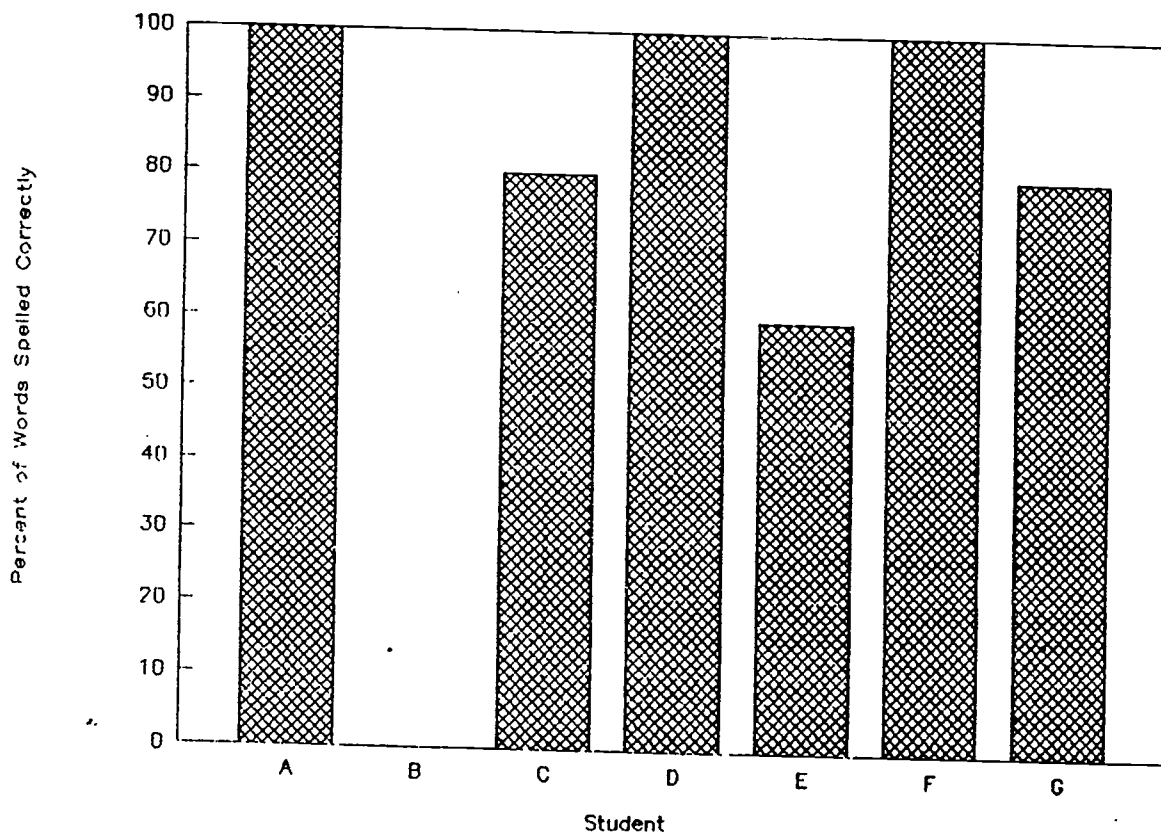
have higher retention rates was based on the belief that they are internalizing letter patterns and word knowledge rather than relying on pure memorization skills as it is postulated Group B will be doing. The graphs below in Figs. 11-13 summarize the data collected to test this hypothesis. Fig. 11 and Fig. 12 show the percent of words each student spelled correctly on all three tests, represented on the graphs as their retention rates. Fig. 13 compares the average retention rate for each group.

I made the calculations by marking each word that a student misspelled on each test (See Appendix, Fig. 9.1-9.6 and 10.1-10.7). The number of words a student spelled correctly on all three tests were found and a percentage calculated. The final calculation was performed to find each group's average which was to be the basis of comparison.

As shown in Fig. 13 Group A had a higher retention rate, 87%, than Group B, 62%, thus supporting the hypothesis that Group A was internalizing word patterns and knowledge rather than relying on memory alone.

FIGURE 11

Retention Rates For Group A



* Student B was absent

FIGURE 12
Retention Rates For Group B

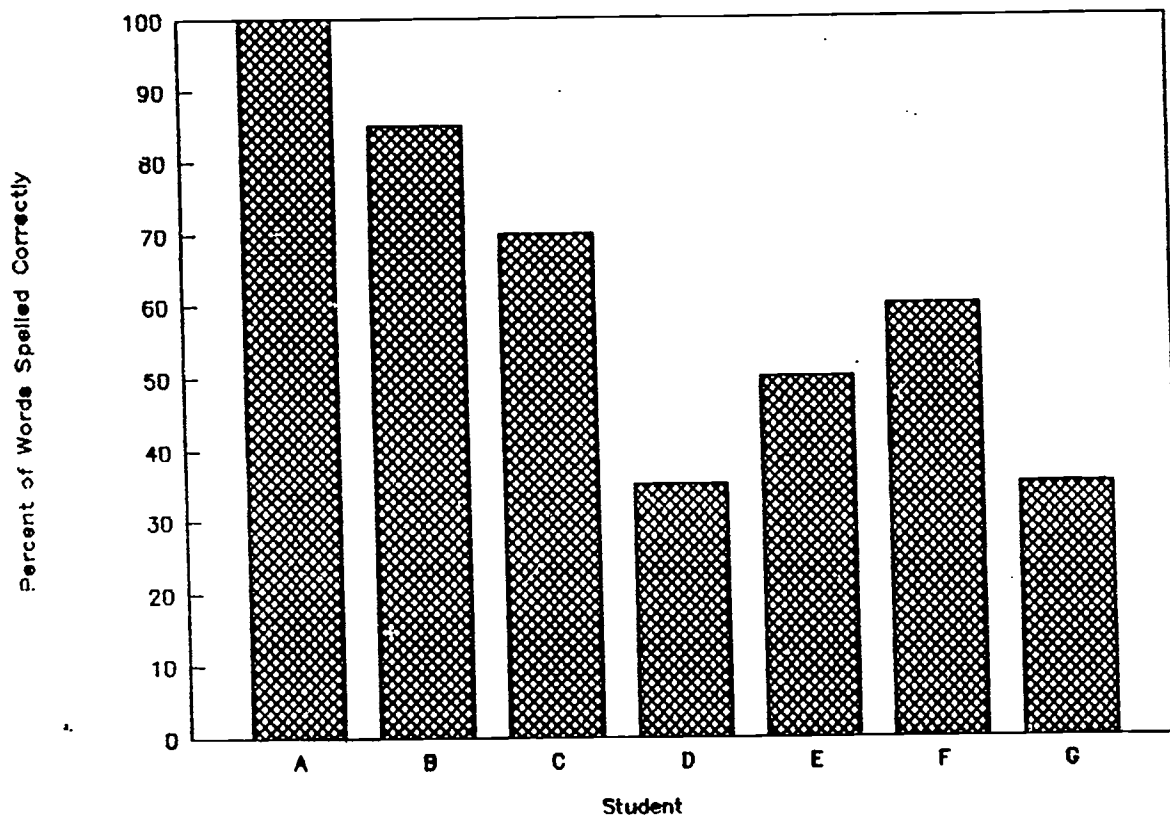
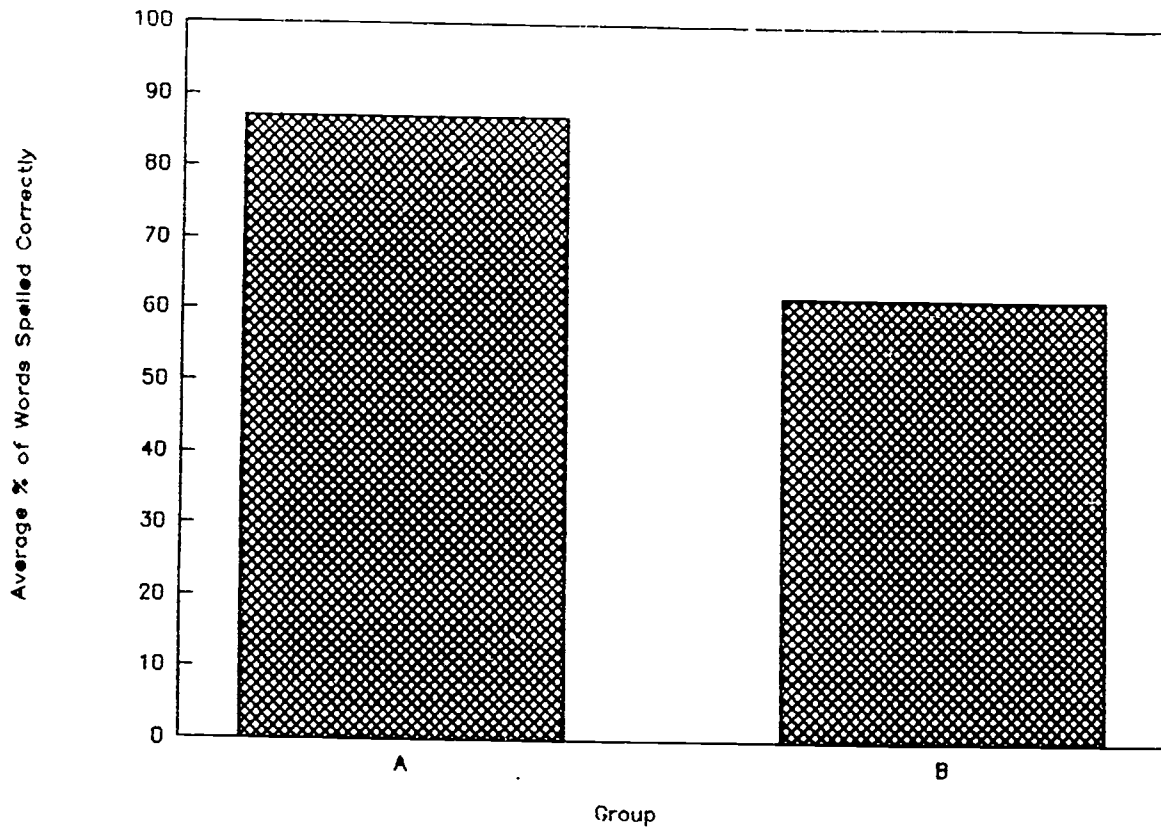


FIGURE 13

Averages For Groups A & B



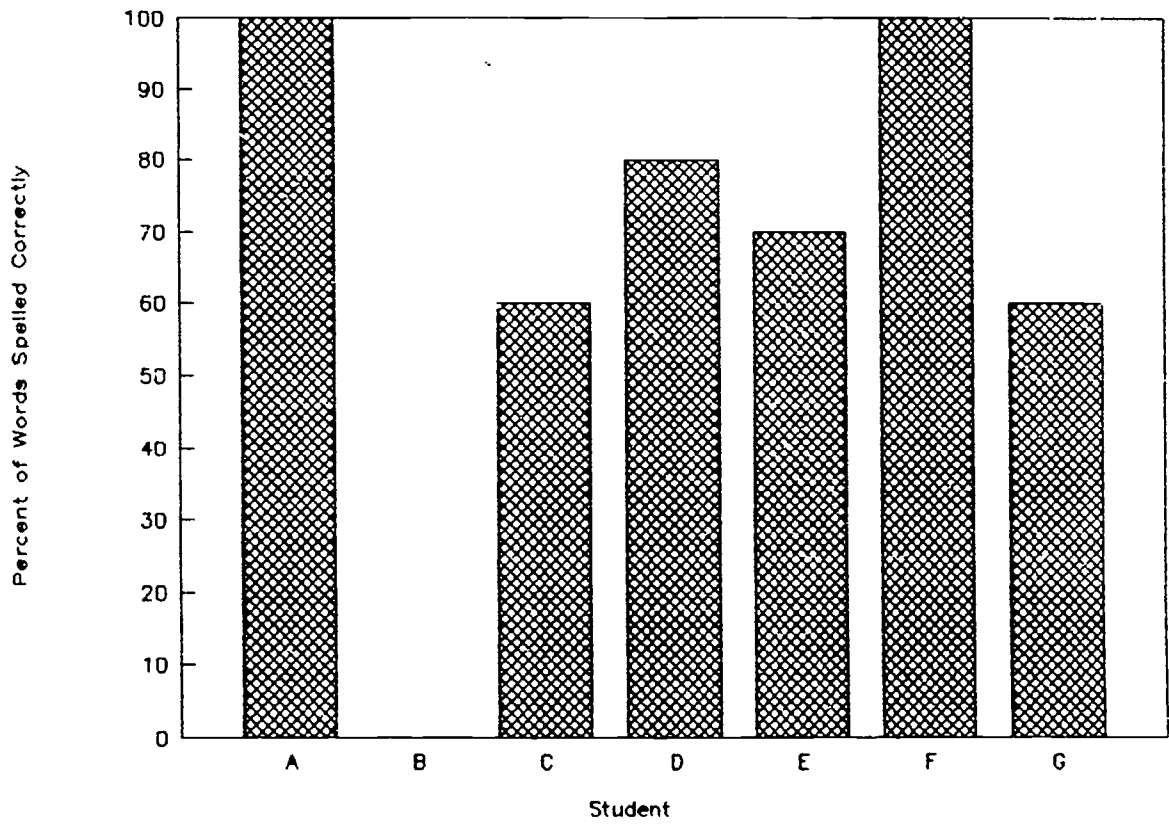
Hypothesis 2:

For the second hypothesis I predicted that Group A would be more successful at spelling unfamiliar words (yet similar to what tested on) than Group B because they would be able to apply patterns they were internalizing to words that they did not know. I predicted that Group B would be less successful at spelling these unfamiliar words because they rely on the memorization of words. In other words if they had not seen the word and been told to study it then they would be less likely to spell it successfully.

I gave each student ten unfamiliar words, and the number of words spelled correctly was recorded, and a percentage calculated as shown in Fig. 14 and Fig. 15. Then, a group percentage was calculated for each group in order to be compared as shown in Fig. 16. Group A spelled 78.3% of the words correctly and Group B 78.6%. The results were extremely close and they did not support the hypothesis that the word study group would be more successful at this task than the traditional spelling group. This data suggests that both groups have adopted some mechanism which they use to spell unfamiliar words, but neither group really outperformed the other.

GROUP A

FIGURE 14
Unfamiliar Words Spelled Correctly



* Student B was absent

FIGURE 15

GROUP B

Unfamiliar Words Spelled Correctly

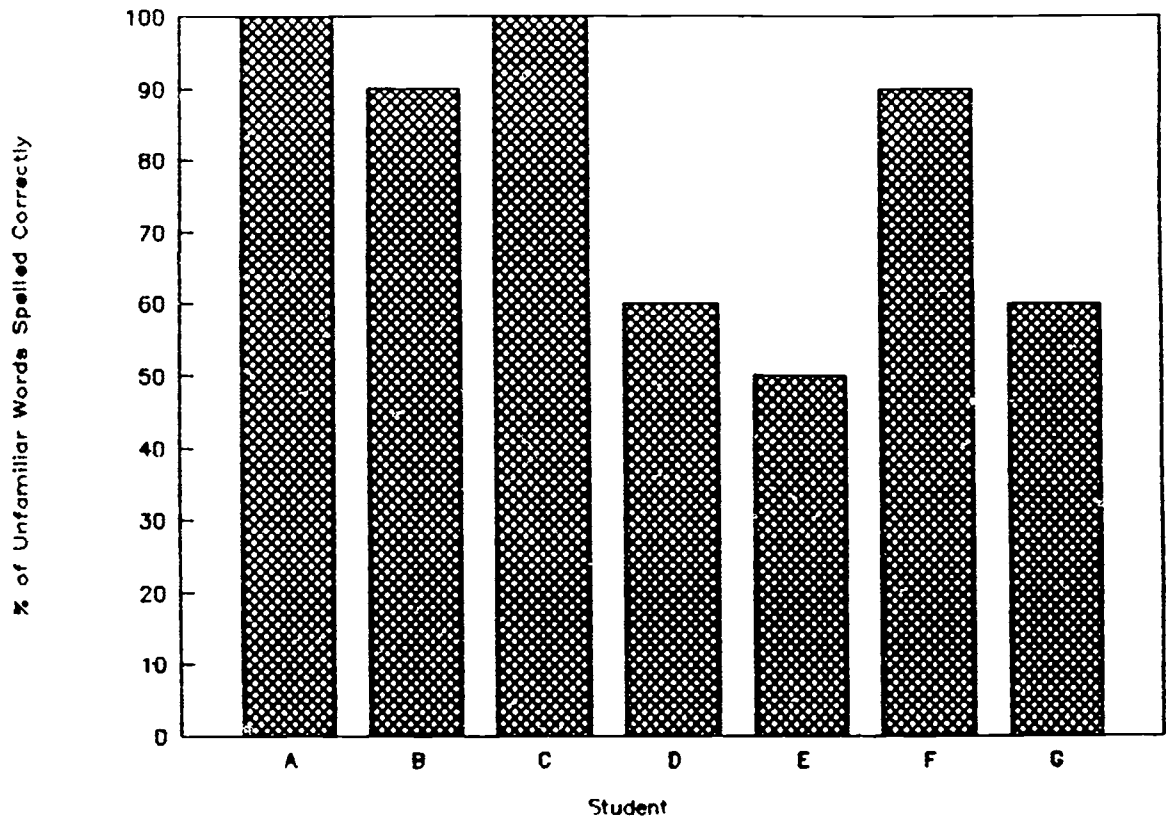
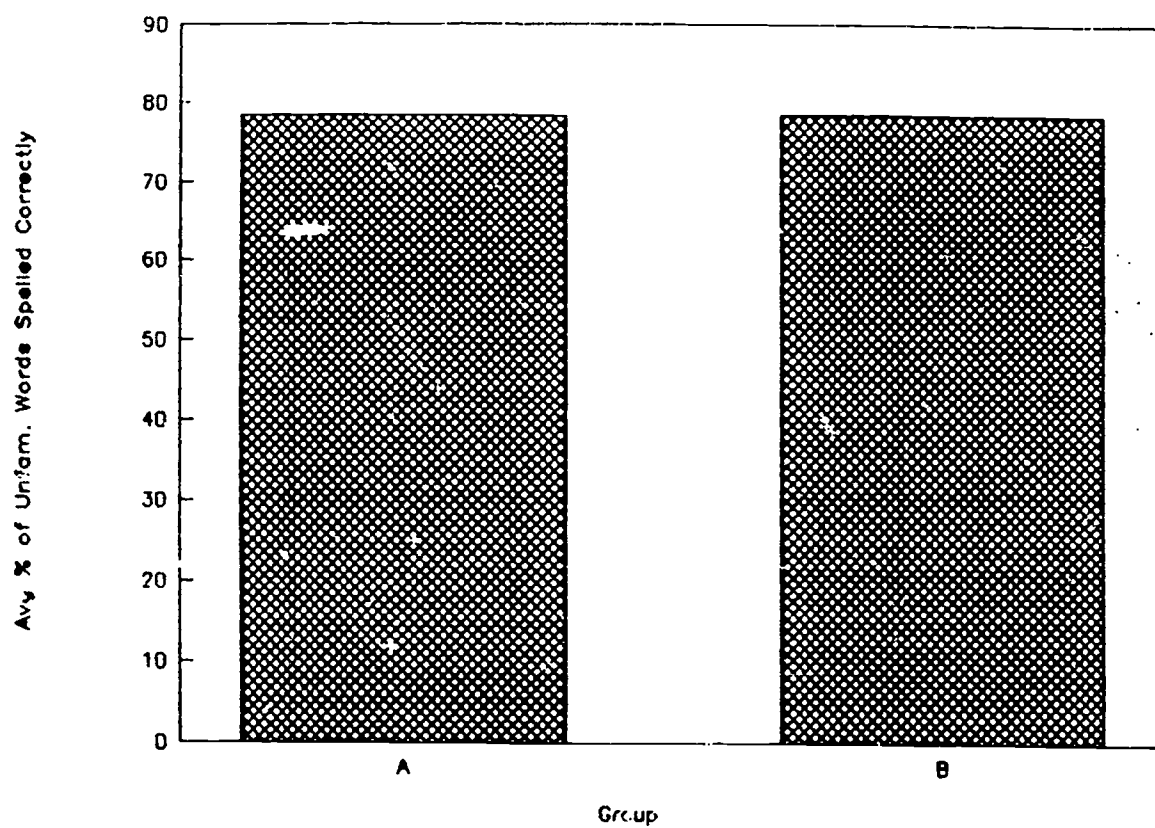


FIGURE 16

Group Averages For Unfamiliar Words



SUBORDINATE RESULTS AND ANALYSIS:

The above results and analyses were those of the two primary hypotheses that were stated at the beginning of this study. As the study progressed and other factors appeared, I decided to collect some data in addition to that of my primary hypotheses. One concern that I had throughout the study was the fact that the words being used by the word study group were relatively easy compared to the words in the traditional group. This condition was unexpected, but I chose to leave it as it was due to the fact that it reflected the method of spelling I was testing in each particular classroom. Another concern was that the traditional group may be spelling words which were in general too hard for them to memorize or learn in the first place. In other words, they may not have been developmentally ready to learn them.

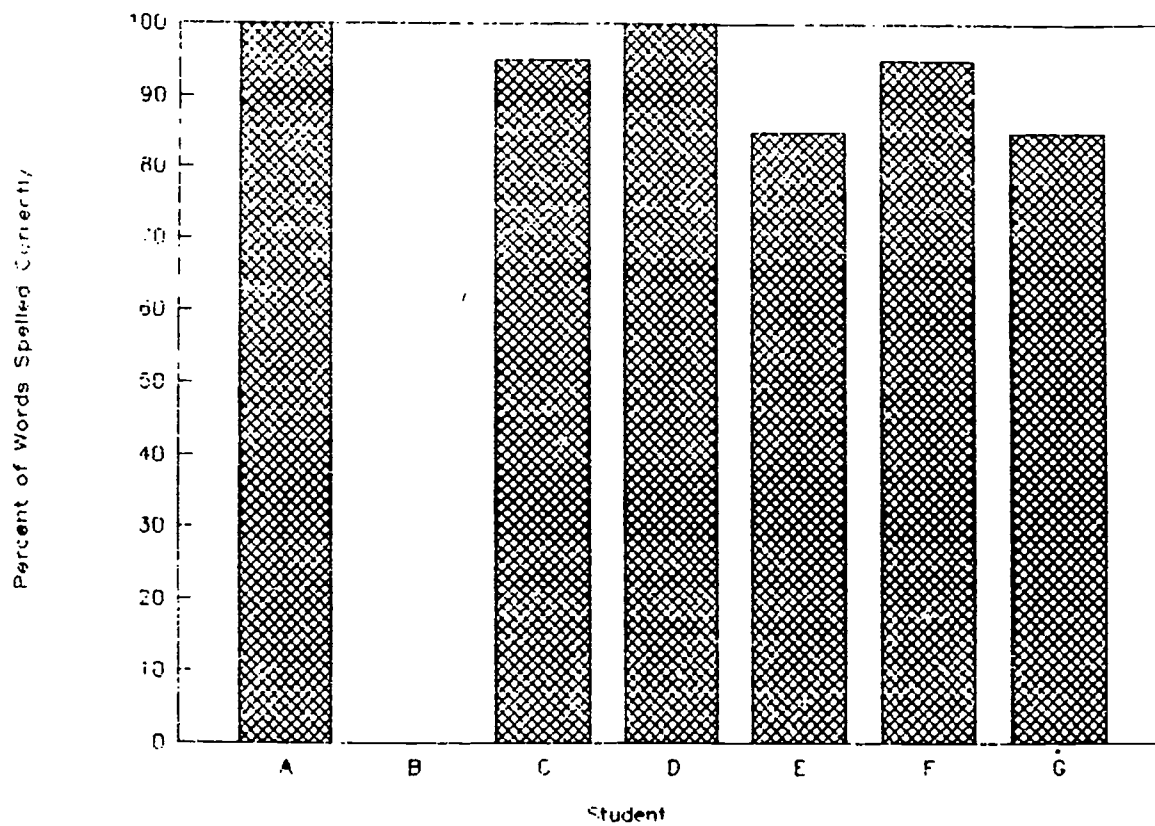
In light of these questions, the average number of words spelled correctly on each test was computed for each student and for each group to see if one group was more successful on a test to test basis. Fig. 17 and Fig. 18 below show the average number of words spelled correctly for each student. Fig. 19 shows that the

average for Group A was 93% and 76% for Group B. These figures could clearly signal some problems with the words on which the students were being tested. On average, Group A scored significantly better on each test. The fact that they scored better could be because they are internalizing word patterns or because the words were easy for them. It also could signify for Group B that the words in the textbook are not really on their developmental level. They might have performed better on their retention task if tested on words more suited to them developmentally. Unfortunately, this issue is beyond the scope of this paper, but is a definite basis for future research.

GROUP A

FIGURE 17

Avg % of Words Correct on Each Test



* Student B was absent

GROUP B

FIGURE 18

Avg % of Words Correct on Each Test

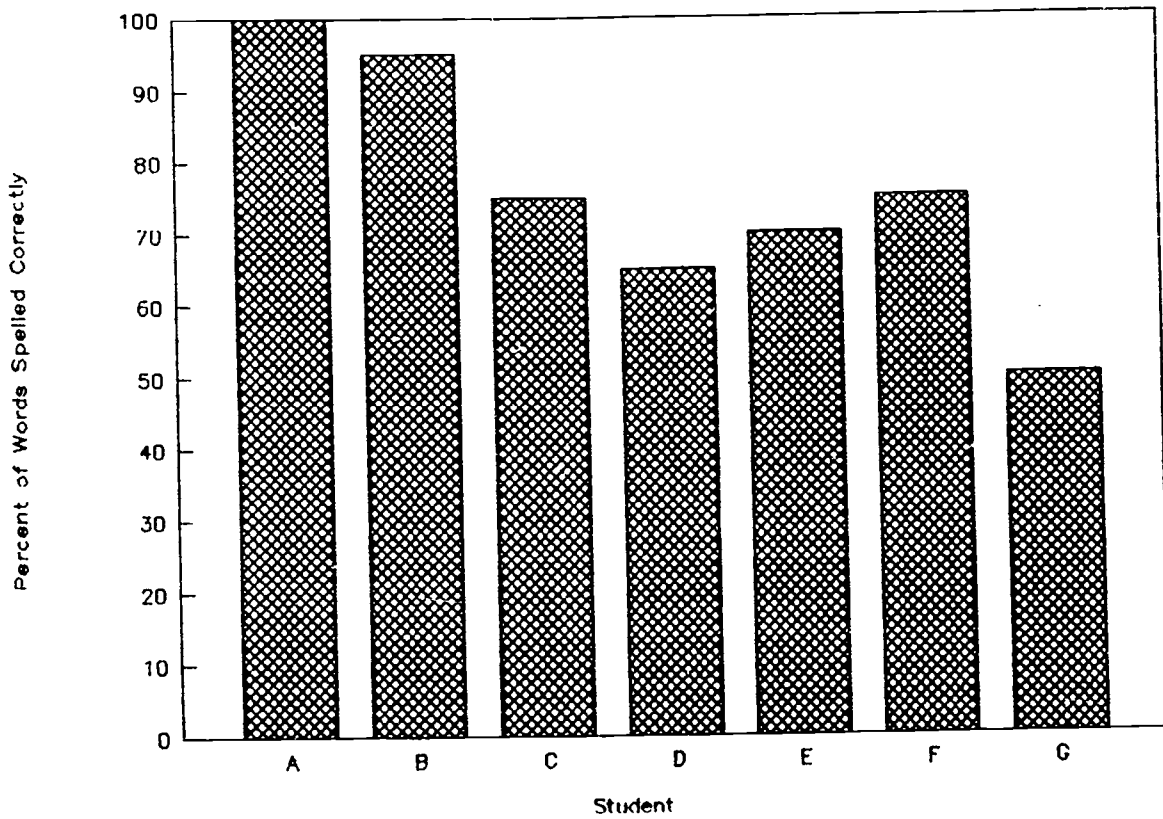
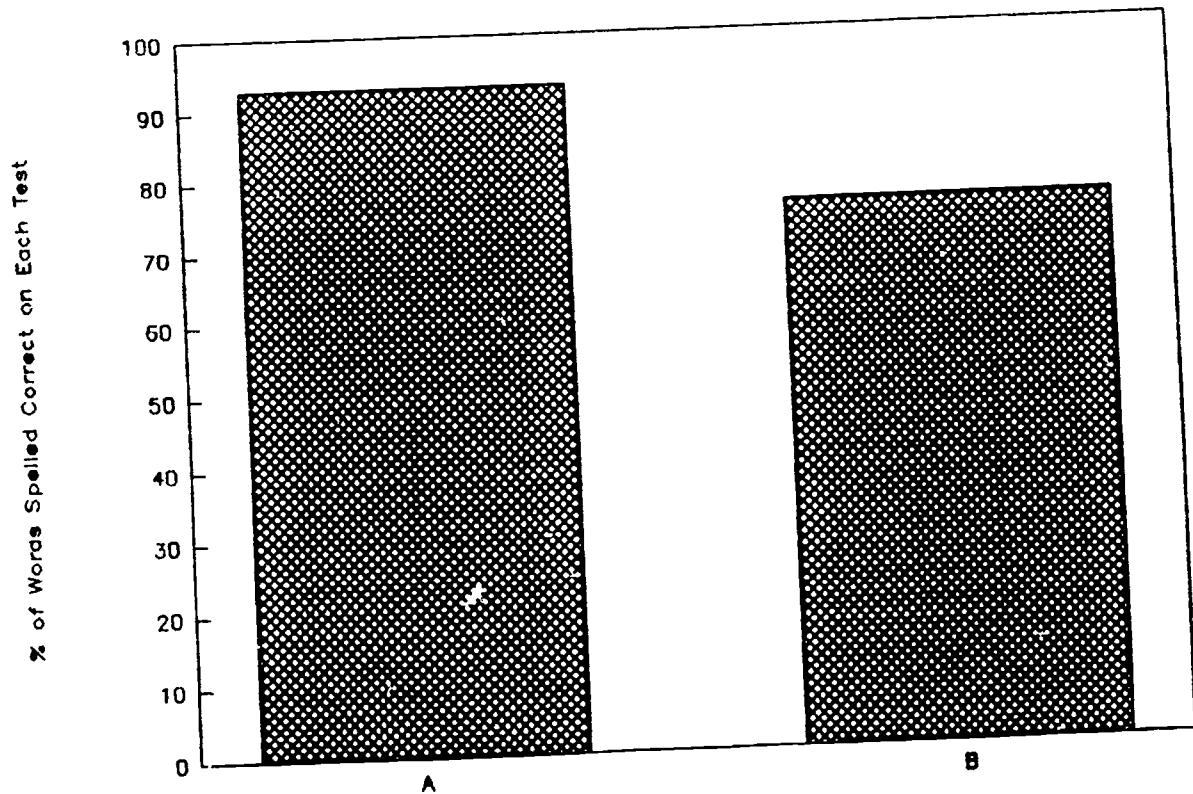


FIGURE 19

Group Averages



Multisyllable Words

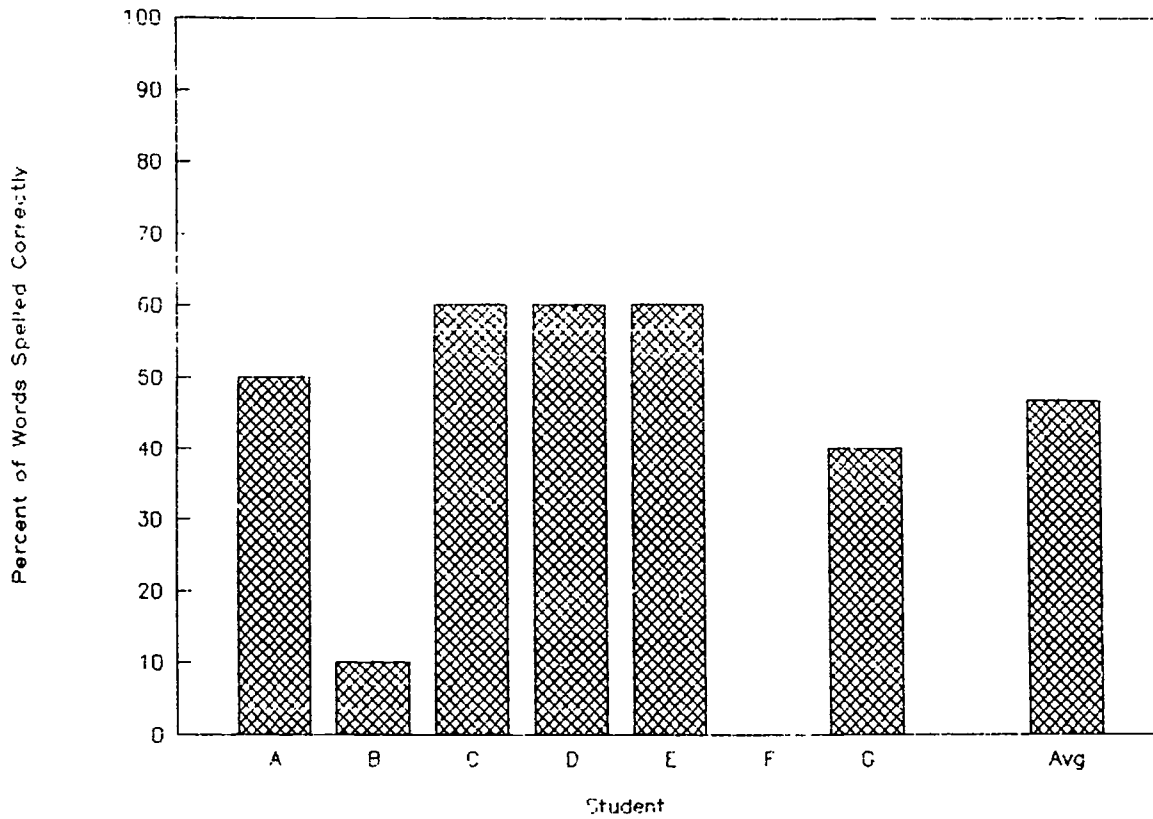
Another factor which concerned me throughout the study was the fact that these fourth grade students were spelling only one syllable words. I realized that the type of words was characteristic of the word study program as it allowed them to master the vowels before moving on to other concepts. I wondered, though, how they would do if tested on multisyllable words from a level four speller(See Appendix, Fig. 7). I tested Group A on ten multisyllable words, realizing that they may not be on their developmental level, but hoping that if they were truly internalizing word knowledge then they could apply it to more difficult words. The percent of the words spelled correctly was computed for each student as shown in Fig. 20 and then the group average was calculated to be 47%. This number was disturbing because it suggested that they were not very successful at spelling more difficult words. I began to question whether or not these students were being held back by studying only one syllable words. Also could memorization be necessary or helpful in some instances?

The frequency with which each word was misspelled was also tallied as shown in Fig. 21 (See Appendix, Fig.

7, for word list). It was interesting to note that it seemed to be the same words that were misspelled by most of the students, and the way they spelled them incorrectly was very similar. They were definitely still sounding out the letters in the words. Perhaps they aren't developmentally ready to go further.

FIGURE 20

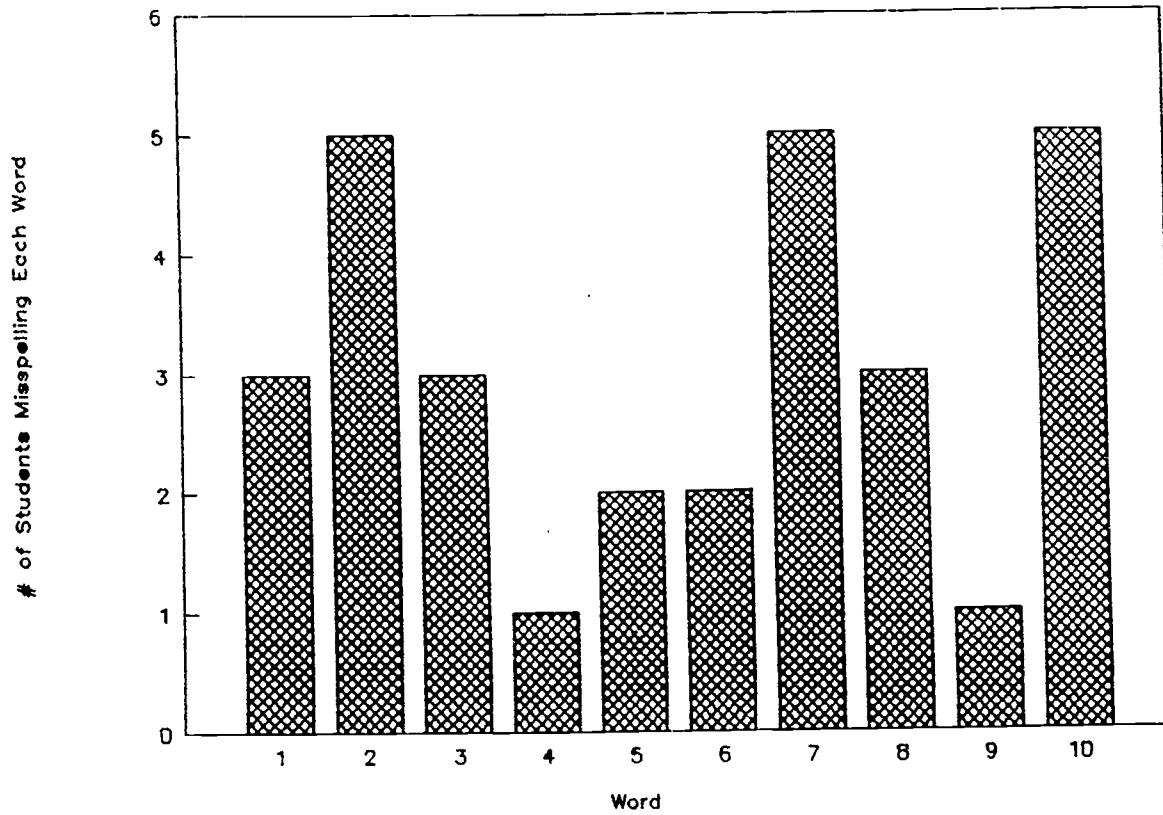
% Multisyllable Words Spelled Correctly



* Student F was absent

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FIGURE 21
Multisyllable Words Misspelled



Spelling Questions

In addition to all of the quantitative data that I collected, I decided to collect some qualitative as well. After examining the outcomes, I wanted to explore how they felt about spelling. This particular topic could be an origin for future research in this area. I gave each student five questions to answer concerning the way they viewed spelling and their feelings about it. I administered this test to see if the answers between the groups were significantly different since they were taught in two distinct manners. I wanted to see if they viewed their spelling time differently and their abilities as spellers differently. The data appears in the following chart, Fig. 22, and each of the questions will be summarized.

Summary of Questions

Question #1: Tell me the first thing that comes to mind when I say "Spelling."

I asked this question in hopes that it might provide an objective means of examining how they viewed their spelling time at school. The individual responses for

each group appear in Fig. 22. The most common responses from both groups were "words" or "writing words." A fascinating finding here is student C's response in Group B. Student C indicated that the first thing she thought of was "i before e, except after c." This answer was interesting since I noted previously in the paper that Group B viewed spelling as a time to memorize words and rules. This answer seems to support that statement, especially since none of the students from Group A commented about spelling rules.

Question #2: Tell me about your Spelling class.

I indicated to students that they should interpret this question however they wanted because I did not want to influence their answers. The answers to this question were varied, but some interesting patterns were found. One student in Group A responded that she did not have a spelling class and one indicated that they wrote down A, E, I, O, & U. These responses seemed to support the idea that they really do not see word study as a time to learn to spell words, but as a time to explore them and "play" with them. None of the children in Group A expressed negative feelings about spelling, however, 3 of the 7

students in Group B said it was "boring." The percentage of students responding in this manner from Group B is fairly large; therefore, one should carefully consider these responses. A lack of interest in a class could result from many factors, but no matter what causes it the results can be increased problems with lowered self esteem. A feeling of failure is something we want to try to prevent our students from experiencing; therefore, any warning signals should be evaluated. On the plus side, though, two students from Group B responded in a more positive manner, but they were the more successful spellers in the group.

Question #3: How do you feel about Spelling?

I asked this question to more closely assess the issue of self esteem. There seemed to be a fairly even mix of those who liked spelling and those who disliked it from each group. It is important to note, though, that it was mostly the poor spellers who did not like spelling. As mentioned in the responses to the second question, one should carefully consider those who disliked spelling in both groups.

Question #4: How do you learn to spell words?

I asked this question to examine the issue of memorization and its importance to each group. It was stated earlier that the traditional method signalled to students that they were to memorize words, while word study signalled the idea of just learning about words through patterns. As expected most of the responses from Group B had something to do with the idea of memorization. For instance they responded with things such as study the word, look at the word, copy the word 5 times, or write the word. These answers all seem to reflect the idea of memorizing the letter sequences or letters within a word. The response from Group A were somewhat different as they seemed to focus on the idea of finding patterns or sounding them out. The difference in these responses could certainly point to a difference in the way these students are learning to spell.

Question #5: On a scale of 1-10, with 1 being terrific and 10 being terrible, rate yourself as a speller.

I asked the final question to again assess their feelings about their spelling abilities. I was interested to see if Group B felt less confident about

their spelling abilities than Group A since other studies have shown that to occur and since they were less successful on a test to test basis. Five of the seven students in Group B responded with the number 5, meaning average. Only two of the six students in Group A gave themselves a five. The only other difference was to note that more of the students in Group A gave responses closer to the number 1, indicating a terrific speller. A positive finding was that no one rated themselves below a 5, which meant that no one thought they were worse than average in spelling. However, one problem could have been that Group A was spelling simpler words. If Group A had been using words of similar difficulty would they have rated themselves in a similar fashion?

A Concluding Remark

I used this questionnaire to provide some additional information. I also hoped to support prior statements made concerning the two groups. Some of this data does support the notion that each group views spelling and their abilities as spellers differently. It also gives some support to the idea that students instructed through word study are learning to internalize patterns and word

knowledge rather than memorizing words. The results from this brief questionnaire would be a good basis for future qualitative research on this subject. It opens up many questions and concerns which could be studied in much greater detail. I hope that it did serve to highlight some of the qualitative issues surrounding this topic since it was not the primary focus of this study.

Figure 22

ANSWERS TO SPELLING QUESTIONS

STUDENT	A	B	C	D	E	F	G
---------	---	---	---	---	---	---	---

TELL ME THE FIRST THING THAT COMES TO MIND WHEN I SAY "SPELLING".

GROUP A	words	N/A	oh no	words	work/tests	writing a word	spelling a word
GROUP B	test	words	"i before e except after c"	words	spelling a word	test/wierd feeling	words

TELL ME ABOUT YOUR SPELLING CLASS.

GROUP A	We have spelling tests, word study, and vowels.	N/A	It's my normal class, we write down "A,I,O,U,E."	I think most of the words are easy.	I don't have a spelling class.	word study	She calls out words and we spell them.
GROUP B	We have spelling games and spelling bees.	It's easy, but some words are a little hard.	My spelling class is fun. The teacher tells us jokes to help us remember things.	Spelling is boring.	Our spelling class is boring.	We have tests every Friday. 18 words and new words	boring

Figure 22 cont

ANSWERS TO SPELLING QUESTIONS (CONT.)

STUDENT	A	B	C	D	E	F	G
HOW DO YOU FEEL ABOUT SPELLING?							
GROUP A	Good, it's fun.	N/A	I'm not good at it.	It's fun. When you think about words you can see patterns.	I hate it.	Happy.	Sometimes it's fun, & sometimes I hate it.
GROUP B	I feel confident that I can do good.	I like it b/c you learn dif words and how to spell words that you do not know.	It's O.K. It's not my favorite subject, but I like it.	Boring.	I'm not good at it.	I don't like Spelling! But sometimes I do.	Fine.

HOW DO YOU LEARN TO SPELL WORDS?							
GROUP A	I taught myself, my parents helped me, and Have-A-Go is helping me.	N/A	Look at the words carefully.	Think of patterns & picture them from the past. Also, learn tricks.	Study hard & sound some of the hard ones out.	Spell them.	Sound them out.
GROUP B	By reading, paying attention in class & studying.	I take them piece by piece and sound them out.	I sound them out & then think have I seen this word before?	You study a lot.	Read a book and practice.	Sounds, write them, copy them 5 times, & remember the word.	Look at it for a long time.



Figure 22 cont.

ANSWERS TO SPELLING QUESTIONS (CONT.)

STUDENT	A	B	C	D	E	F	G
GROUP A	2	N/A	4	2	5	1	5
GROUP B	2	3	5	5	5	5	5

ON A SCALE OF 1-10, WITH 1 BEING TERRIFIC AND 10 BEING TERRIBLE, RATE YOURSELF AS A SPELLER.

V. DISCUSSION AND CONCLUSIONS

Overview

"Memory alone will not suffice to make a speller" (Nelson, 1989, p.262). In order to learn to spell words and be able to spell those words correctly weeks later a student needs to do more than memorize them. Research has shown numerous instances where a student receives a 100 on a spelling test, but when asked to spell those same words a week or so later they are not able to do so successfully. Due to these inconsistencies and research which suggests changing the way we teach spelling, I conducted an experiment which examined the retention rates of students taught through two distinct methods of spelling instruction; word study and traditional spelling.

These two methods were precisely defined according to how each teacher used them, bearing in mind that alternate ways of using each method may produce different results. I labeled **Group A** the word study group and **Group B** the traditional group. Two primary predictions were made about these groups based on the belief that **Group A** was internalizing word knowledge and **Group B** was

relying solely on memorization for learning to spell. It was predicted that Group A would be more successful at repeatedly spelling words correct and at spelling unfamiliar words (or those not tested on). Group A used an inductive approach to spelling, which stemmed directly from the developmental model mentioned earlier in the paper, thus supposedly learning to spell by internalizing word patterns and word knowledge. If the students were truly internalizing rather than memorizing they should have higher retention rates and be able to apply this knowledge when spelling unfamiliar words. I gathered data for each hypothesis, but only data from one seemed to support my original predictions. Even the evidence supporting one of the hypotheses needs to be critically examined and not taken at face value.

Hypothesis One

For the first hypothesis, Group A did have significantly higher retention rates than did Group B. It would appear that using Word Study as a means of instruction helps increase a students retention rate for spelling words, however, there are some circumstances surrounding this conclusion that needs to be addressed. While Group A did remarkably better at this task it must

be noted that the words they were learning and being tested on were one syllable words while those Group B were using were multisyllable. This situation was left in the study because it reflected the styles of each method of instruction was being examined, but it could have confounded the results. Group A may have had higher retention rates because they were spelling easier words, not because they were internalizing word patterns. This issue was explored further as the data was analyzed. I looked at how well each student did on a test to test basis. It appeared that students in Group A did much better on each individual test. This finding could have been due to internalization of patterns, but also due to the fact that they missed fewer words because they were easier to spell. Group B may have had an unfair advantage in being tested on more difficult words. It would be very beneficial to replicate this study with two groups of students using words which are of equal difficulty. There may be a problem, however, finding this situation as it was in this study. In using word study based on a developmental model, students are given words which they are developmentally ready to spell and usually start by mastering vowels in one syllable words.

One may have difficulty finding groups using words of equal difficulty when the traditional group uses a grade level speller. Grade level spellers have been accused of giving students words which are too difficult for them to spell (i.e. not on their developmental level). And this issue only brings to mind another concern. Were the students in Group B ready for the words which their spelling text gave them?

Throughout the experiment I pondered over the issue of Group A using one syllable words. I knew that Group B may be using words that were too hard for them, but could Group A be using words that were too easy for them? In fact when looking at the qualitative spelling questions, a couple of the students in Group A commented that the words were easy. Perhaps the word study method needs to be improved because it seemed to hold back Group A. I decided to test Group A on ten multisyllable words from a level four speller to see how they performed. As you saw in Fig. 20 their performance was relatively poor and that could signal many things. 1) They may have not had enough exposure to larger words and subsequently are being held back and hurt academically. 2). They may not be developmentally able to spell those words, thus

supporting the idea that textbooks give words that are too difficult for students. 3). It could also signal that maybe they have not internalized the patterns enough to apply them to multisyllabic words. It was also interesting, though, to see which of those words were misspelled. The breakdown was given in Fig. 21 which showed that most students misspelled the same words. Even their misspellings were similar as they clearly sounded out each word. This pattern could support the idea that they are internalizing knowledge which can be applied to other words; however, they were applying the patterns which sounded correct. This test ultimately seemed to raise many questions which need to be answered with future research on how to use word study most effectively.

Another issue that could have confounded the results in the first hypotheses was that Group B normally took multiple choice spelling tests, and the ones used in this study were oral. I used this procedure to keep the two situations consistent, but it may have confounded the results. Group B may have done better if they were given a multiple choice test.

As one can see, even though the initial results

support the hypothesis that Group A would have higher retention rates, there are too many confounding factors to draw a sharp conclusion. Other researchers need to do other studies using comparison groups, different students, different teachers, and different words to see if the findings here are valid and reliable and if they can be generalized to other settings.

Hypothesis Two

The second hypothesis was that the Word Study Group would be more successful at spelling words unfamiliar to them, in other words those not originally tested on. The results here, however, did not support my hypothesis as both groups performed almost equal. In fact Group B actually performed a small percentage better than Group A. There were probably confounding factors in this case as well, but irregardless it seems that both groups had some mechanism for spelling words that they had not "studied for." It could have been that the pattern which I tested Group A on was one in which the students had not completely internalized yet, therefore, they would be unable to apply previous knowledge to new words. Or it could be that the teacher in Group B is very successful in how she uses the traditional approach to spelling.

She may be incorporating critical components in her curriculum which enable her students to internalize word knowledge or at least gives them a mechanism for attacking unknown words. It may also be that **Group B** has just been exposed to more words, thus, making the words used familiar rather than unfamiliar. It could indicate that memorization may be a critical component in learning to spell after all.

It should also be noted that each student's success on the various spelling tasks closely linked with their spelling levels (See Fig. 3 and Fig. 4). Research often states that instruction is important, but a student's effectiveness in spelling is a critical determining factor. Are some children just more likely to be better spellers? The results found in this study are important, but the fact that how good at student is anyway could have been an important confounding variable which was not controlled for. Research which can factor out the differences in spelling abilities would be extremely beneficial in order to eliminate this confounding variable.

Call to Action

Overall this study seemed to raise more questions than it answered, but that is a problem we often struggle with in education. We are constantly searching to find the best method possible to teach our students so they can be as successful as possible. It seems that the "answers" offered by this study suggest a combination of word study and traditional spelling practices in the classroom. It seems that students need to learn some rules for spelling and how to spell large words, but they should not be forced to do so if they aren't developmentally capable. Forcing them to learn words too difficult could result in feelings of failure and lowered self-esteem. Teachers need to be careful when they use textbooks so that they do not put students in such situations. In fact, teachers may be wiser to use spelling words from literature books or books their children are reading rather than a grade level speller.

If using a traditional approach, the emphasis on deductive learning should decline and more time given to allow students to freely explore words on their own. The teachers should allow the students to see what they can learn about words instead of always expecting them to

digest information fed to them by teachers or textbooks. There should be more emphasis placed on learning word patterns and word knowledge rather than letter by letter spellings. A teacher should, in general, strive to make spelling time interesting and relevant to the students, and that is what words study does as it allows them to work on a level where they feel comfortable. It is not clear from this study if one method is superior over the other, but the benefits of each should be noted. A teacher who examines the research in both fields and finds a combination suited to her and her students needs will in the end probably be successful at helping the students to become great spellers.

Future Research

As noted earlier, this study raises many questions which need to be examined in separate studies. The issue of whether or not spelling books use words that are too difficult for students and how fast or slow one should move in a word study curriculum are two critical issues. For instance, educators often argue that spelling textbooks use words that some students are not developmentally ready to spell. Researchers need to

closely examine this situation because it may be that we are signalling to students that the only way to learn to spell is by memorizing words. Another problem directly associated with this issue is self esteem. If students are constantly given words that are too difficult for them then they may begin to develop the attitude that they are not very good spellers. A critical issue in determining these difficulties is whether or not the students can read the words in the book. Studies have shown that a student must be able to read a word before they are ready to spell it.

While the issue of pushing students with words above their developmental level is important, the other side of the issue is equally important. We saw in this study that fourth grade students were studying single syllable words. This matter may or may not have been a problem with this class, but it is an issue that certainly needs to be examined. When using word study a teacher needs to be certain that she is also challenging the students that need to be challenged. Some word study classrooms group children according to their developmental levels and others may work in a whole group as this class did. Research needs to examine the various methods and how

they are used. I agree it is important, if following the developmental model, to move students through the appropriate stages of spelling. But one must remember that some children will excel faster than others, and these differences need to be addressed. We must research the issue of finding the best way to use word study in order to accommodate children of varying abilities.

A very important issue in spelling that should be researched further is the link between reading and spelling abilities. One may want to pursue a study similar to this one, but using a different measure to assess retention of words. An experimenter could look at words a child spells correctly on a test and then look to see how many of those words are used and spelled correctly in later writing assignments. This measure would also give one an idea of how relevant the words are that a student is studying and if they are words they can understand and read.

Teachers should also be trained in Word Study. It is very important that school systems provide teachers with this training so they can incorporate into their classrooms. One should explore how many teachers

actually receive this training, and how many subsequently make use of it in their classrooms on a regular basis.

Textbooks themselves should also be examined to see to what degree word study components are actually used in them. I mentioned that the textbook used in this study had some components of word study as they grouped words according to similarities. It may be that some textbooks are more effective in teaching spelling because they use critical components of word study. In such a situation, a class using a textbook which incorporates many facets of word study could not be called a traditional classroom. A study may then examine the effectiveness of a combined approach to teaching spelling which I previously suggested may be very useful.

Finally one should further examine the qualitative side of this issue. Do students instructed through word study feel more successful and have better attitudes towards spelling? Is one group of students more interested in spelling than another? These questions are only a few of many which fall under the issue of self esteem. This idea was mentioned when discussing the difficulty level of words, but it could also be influenced by how relevant a student sees a class or how

"fun" it is. Studies have indicated that when a child enjoys doing something he may be more likely or eager to learn it. Is one of these methods of spelling more effective on that issue? In general this study only briefly touches on the ongoing research in traditional spelling instruction and instruction through word study. There are many, many different ways each can be used, and the different ways to use each one need to be tested as well. With so many issues and questions surrounding an issue, only future studies and research will bring us closer to a final conclusion.

APPENDIX

FIGURE 1
How To Spell a Word

Each week you will be learning to spell a new list of words. You will need a system for studying these words. Follow the steps below to master the spelling of a new word. You will find these steps helpful as you prepare for your weekly test.



1. Look at the new word.



2. Say the word.



3. Spell the word aloud.



4. Copy the word.



5. Picture the word in your mind.



6. Cover the word and write it.

Check for mistakes. If you have made a mistake, repeat steps 1 through 6.

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FIGURE 2

Figure 2.1 Stages of Spelling Development

Age 1-7 Stage 1	Age 5-9 Stage 2	Age 6-12 Stage 3	Age 8-18 Stage 4	Age 10-100 Stage 5
<i>Preliterate</i>	<i>Letter Name</i>	<i>Within Word Pattern</i>	<i>Syllable Juncture</i>	<i>Derivational Constancies</i>
Scribbles Identifies pictures Draws Imitates writing Learns letters	Most sight words spelled correctly Invented spelling by letter name	Most sight words spelled correctly Invented spellings honor short vowels and long vowel markers	Sight words may or may not be transferred to spelling performance Invented-spelling errors occur at juncture and schwa positions	Sight words may or may not transfer Invented spellings "most frequently misspelled"
<i>Readiness</i>	<i>Episode 1 (Concept of Word)</i>	<i>Episode 2 (Silent Reading)</i>	<i>Episode 3 (Abstract Thought)</i>	<i>Toward Maturity in Reading</i>
Talks Listens to stories Requests stories Identifies symbols Recites to print	<i>Beginning Reading</i> Steady acquisition of sight vocabulary Support for reading necessary Oral reading Word-by-word reading: prosodic form delayed Basic story form used functionally	<i>Early Reading</i> Semantic support sufficient Silent reading established Prosodic oral reading Rapid word acquisition Predictions accurate for simple stories and expository material	Functional vocabulary mastered Common plot complexities mastered Basic discipline mastered	Classical vocabulary expands rapidly Metalinguistic reasoning applied to form and content

Figure 3

Group A Spelling Levels

Students	Level on 9/92	Level on 3/93
Student A	Level 3	Level 5
Student B	Level 2	Level 2
Student C	Level 2	Level 3
Student D	Level 5	Level 6
Student E	Level 2	Level 3
Student F	Level 5	Level 6
Student G	Level 2	Level 2/3

Figure 4

Group B Spelling Levels

Students	Level on 9/92	Level on 2/93
Student A	Level 5	Level 6
Student B	Level 4	Level 6
Student C	Level 4	Level 6
Student D	Level 4	Level 4
Student E	Level 4	Level 4/5
Student F	Level 4	Level 4/5
Student G	Level 3	Level 3/4

FIGURE 5

MCGUFFEY READING CENTER
Qualitative Inventory of Word Knowledge
FORM B

LEVEL I	LEVEL II	LEVEL III	LEVEL IV	LEVEL V	LEVEL VI
bump	batted	find	square	enclosed	absence
net	such	paint	hockey	piece	civilize
with	once	crawl	helmet	novel	accomplish
trap	chop	dollar	allow	lecture	prohibition
chin	milk	knife	skipping	pillar	pledge
bell	funny	mouth	ugly	confession	sensibility
shade	start	fought	hurry	aware	official
pig	glasses	comb	bounce,	loneliest	inspire
drum	hugging	useful	lodge	service	permission
hid	named	circle	fossil	loyal	irrelevant
father	pool	early	traced	expansion	conclusion
track	stick	letter	lumber	production	invisible
pink	when	weigh	middle	deposited	democratic
drip	easy	real	striped	revenge	responsible
brave	make	tight	bacon	awaiting	accidental
job	went	sock	capture	unskilled	composition
sister	shell	voice	damage	installment	relying
slide	pinned	campfire	nickel	horrible	changeable
box	class	keeper	barber	relate	amusement
white	boat	throat	curve	earl	conference
	story	waving	statement	uniform	advertise
	plain	carried	collar	rifle	opposition
	smoke	scratch	parading	correction	community
	size	tripping	sailor	discovering	advantage
	sleep	nurse	wrinkle	retirement	cooperation
			dinner	salute	spacious
			medal	treasure	carriage
			tanner	homemade	presumption
			dummed	conviction	appearance
			careful	creature	description



FIGURE 6

Spelling Questionnaire

1. Tell me the first thing that comes to mind when I say "Spelling."
2. Tell me about your Spelling class.
3. How do you feel about Spelling?
4. How do you learn to spell words?
5. On a scale of 1-10, with 1 being terrific and 10 being terrible, rate yourself as a speller.

FIGURE 7

Group A Words

Long U Words

1. new
2. knew
3. due
4. dew
5. cute
6. dune
7. view
8. mute
9. stew
10. use
11. tune
12. cue
13. you
14. mule
15. cube
16. hue
17. duke
18. few
19. tube
20. fume

Unfamiliar Words

1. grew
2. fuse
3. lose
4. amuse
5. abuse
6. blew
7. blue
8. rebuke
9. flute
10. used

Level Four Words From Textbook

1. unknown
2. unusual
3. unselfish
4. misspell
5. misprint
6. misbehave
7. disobey
8. displease
9. dislike
10. disconnect

FIGURE 8

Group B Words

Weekly Word List

1. unnecessary
2. unnumbered
3. unidentified
4. unsuccessful
5. unnamed
6. disappear
7. dissatisfied
8. distrust
9. disagree
10. disrespectful
11. inconvenient
12. independent
13. pendant
14. pendulum
15. concession
16. misjudge
17. misplaced
18. miscount
19. suspend
20. process

Unfamiliar Words

1. discolor
2. discomfort
3. disconnect
4. discord
5. unmask
6. unnatural
7. unload
8. miscarry
9. misbehave
10. recess

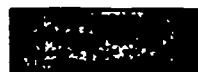
FIGURE 9.1

Student A

Words	Test 1	Test 2	Test 3
1. new			
2. knew			
3. due			
4. dew			
5. cute			
6. dune			
7. view			
8. mule			
9. stew			
10. use			
11. tune			
12. cue			
13. you			
14. mute			
15. cube			
16. hue			
17. duke			
18. few			
19. tube			
20. fume			



CORRECT



INCORRECT

FIGURE 9.2

Student C

Words	Test 1	Test 2	Test 3
1. new			
2. knew			
3. due			
4. dew			
5. cute			
6. dune			
7. view			
8. mule			
9. stew			
10. use			
11. tune			
12. cue			
13. you			
14. mute			
15. cube			
16. hue			
17. duke			
18. few			
19. tube			
20. fume			



CORRECT



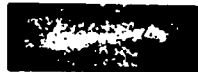
INCORRECT

Student **D**

Words	Test 1	Test 2	Test 3
1. new			
2. knew			
3. due			
4. dew			
5. cute			
6. dune			
7. view			
8. mule			
9. stew			
10. use			
11. tune			
12. cue			
13. you			
14. mute			
15. cube			
16. hue			
17. duke			
18. few			
19. tube			
20. fume			



CORRECT

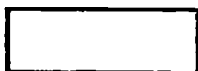


INCORRECT

FIGURE 9.4

Student E

Words	Test 1	Test 2	Test 3
1. new			
2. knew			
3. due			
4. dew			
5. cute			
6. dune			
7. view			
8. mule			
9. stew			
10. use			
11. tune			
12. cue			
13. you			
14. mute			
15. cube			
16. hue			
17. duke			
18. few			
19. tube			
20. fume			



CORRECT



INCORRECT

Student F

Words	Test 1	Test 2	Test 3
1. new			
2. knew			
3. due			
4. dew			
5. cute			
6. dune			
7. view			
8. mule			
9. stew			
10. use			
11. tune			
12. cue	■		■
13. you			
14. mute			
15. cube			
16. hue			
17. duke			
18. few			
19. tube			
20. fume			



CORRECT



INCORRECT

FIGURE 9.6

Student **G**

Words	Test 1	Test 2	Test 3
1. new			
2. knew			
3. due			
4. dew			
5. cute			
6. dune			
7. view			
8. mule			
9. stew			
10. use			
11. tune			
12. cue			
13. you			
14. mute			
15. cube			
16. hue			
17. duke			
18. few			
19. tube			
20. fume			



CORRECT



INCORRECT

FIGURE 10.1

Student **A**

Words	Test 1	Test 2	Test 3
1. unnecessary			
2. unnumbered			
3. unidentified			
4. unsuccessful			
5. unnamed			
6. disappear			
7. dissatisfied			
8. distrust			
9. disagree			
10. disrespectful			
11. inconvenient			
12. independent			
13. pendant			
14. pendulum			
15. concession			
16. misjudge			
17. misplaced			
18. miscount			
19. suspend			
20. process			



CORRECT



INCORRECT

FIGURE 10.2

Student B

Words	Test 1	Test 2	Test 3
1. unnecessary			
2. unnumbered			
3. unidentified			
4. unsuccessful			
5. unnamed			
6. disappear			
7. dissatisfied			
8. distrust			
9. disagree			
10. disrespectful			
11. inconvenient			
12. independent			
13. pendant			
14. pendulum			
15. concession			
16. misjudge			
17. misplaced			
18. miscount			
19. suspend			
20. process			



CORRECT



INCORRECT

Student **C**

Words	Test 1	Test 2	Test 3
1. unnecessary			
2. unnumbered			
3. unidentified			
4. unsuccessful			
5. unnamed			
6. disappear			
7. dissatisfied			
8. distrust			
9. disagree			
10. disrespectful			
11. inconvenient			
12. independent			
13. pendant			
14. pendulum			
15. concession			
16. misjudge			
17. misplaced			
18. miscount			
19. suspend			
20. process			



CORRECT

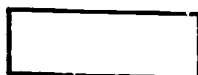


INCORRECT

FIGURE 10.4

Student **D**

Words	Test 1	Test 2	Test 3
1. unnecessary	Incorrect	Incorrect	Incorrect
2. unnumbered	Incorrect	Incorrect	Incorrect
3. unidentified	Correct	Incorrect	Correct
4. unsuccessful	Incorrect	Incorrect	Correct
5. unnamed	Correct	Correct	Correct
6. disappear	Incorrect	Incorrect	Correct
7. dissatisfied	Incorrect	Correct	Correct
8. distrust	Correct	Correct	Correct
9. disagree	Correct	Correct	Correct
10. disrespectful	Correct	Incorrect	Correct
11. inconvenient	Incorrect	Incorrect	Incorrect
12. independent	Incorrect	Incorrect	Correct
13. pendant	Correct	Correct	Incorrect
14. pendulum	Correct	Incorrect	Correct
15. concession	Incorrect	Correct	Incorrect
16. misjudge	Correct	Correct	Correct
17. misplaced	Correct	Correct	Correct
18. miscount	Correct	Correct	Correct
19. suspend	Correct	Correct	Correct
20. process	Correct	Correct	Correct



CORRECT



INCORRECT

Student E

Words	Test 1	Test 2	Test 3
1. unnecessary	INCORRECT	INCORRECT	INCORRECT
2. unnumbered	CORRECT	CORRECT	CORRECT
3. unidentified	INCORRECT	CORRECT	CORRECT
4. unsuccessful	INCORRECT	INCORRECT	INCORRECT
5. unnamed	CORRECT	CORRECT	CORRECT
6. disappear	CORRECT	INCORRECT	CORRECT
7. dissatisfied	CORRECT	INCORRECT	CORRECT
8. distrust	CORRECT	CORRECT	CORRECT
9. disagree	CORRECT	CORRECT	CORRECT
10. disrespectful	CORRECT	CORRECT	CORRECT
11. inconvenient	INCORRECT	INCORRECT	CORRECT
12. independent	CORRECT	CORRECT	CORRECT
13. pendant	INCORRECT	INCORRECT	INCORRECT
14. pendulum	INCORRECT	INCORRECT	INCORRECT
15. concession	INCORRECT	CORRECT	INCORRECT
16. misjudge	CORRECT	CORRECT	CORRECT
17. misplaced	CORRECT	CORRECT	CORRECT
18. miscount	CORRECT	CORRECT	CORRECT
19. suspend	CORRECT	CORRECT	CORRECT
20. process	CORRECT	CORRECT	CORRECT



CORRECT



INCORRECT

Student F

Words	Test 1	Test 2	Test 3
1. unnecessary	Incorrect	Correct	Incorrect
2. unnumbered	Correct	Correct	Correct
3. unidentified	Correct	Correct	Correct
4. unsuccessful	Incorrect	Correct	Incorrect
5. unnamed	Correct	Correct	Correct
6. disappear	Correct	Correct	Correct
7. dissatisfied	Correct	Correct	Correct
8. distrust	Correct	Correct	Correct
9. disagree	Correct	Correct	Correct
10. disrespectful	Correct	Incorrect	Incorrect
11. inconvenient	Incorrect	Incorrect	Incorrect
12. independent	Incorrect	Correct	Incorrect
13. pendant	Correct	Correct	Incorrect
14. pendulum	Correct	Correct	Incorrect
15. concession	Correct	Correct	Incorrect
16. misjudge	Correct	Correct	Correct
17. misplaced	Correct	Correct	Correct
18. miscount	Correct	Correct	Correct
19. suspend	Correct	Correct	Correct
20. process	Correct	Correct	Correct



CORRECT



INCORRECT

FIGURE 10.7

Student G

Words	Test 1	Test 2	Test 3
1. unnecessary			
2. unnumbered			
3. unidentified			
4. unsuccessful			
5. unnamed			
6. disappear			
7. dissatisfied			
8. distrust			
9. disagree			
10. disrespectful			
11. inconvenient			
12. independent			
13. pendant			
14. pendulum			
15. concession			
16. misjudge			
17. misplaced			
18. miscount			
19. suspend			
20. process			



CORRECT



INCORRECT

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